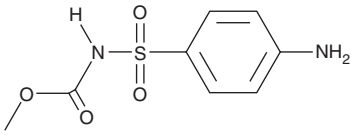
PRODUCT INFORMATION

Asulam

Item No. 37902

CAS Registry No.:	3337-71-1
Formal Name:	N-[(4-aminophenyl)sulfonyl]-carbamic acid, methyl ester
MF:	$C_8H_{10}N_2O_4S$
FW:	230.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 271 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Asulam is supplied as a solid. A stock solution may be made by dissolving the asulam in the solvent of choice, which should be purged with an inert gas. Asulam is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of asulam in these solvents is approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of asulam can be prepared by directly dissolving the solid in aqueous buffers. The solubility of asulam in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Asulam is an herbicide.[1] It inhibits wheat seedling dihydropteroate synthase (DHPS) activity by 70% in a cell-free assay when used at a concentration of 100 µM and decreases the levels of total folates in the shoot tips of wheat, wild oats, flax, and chickweed when applied at a dose of 1.1 kg/ha.[2] Asulam (40% w/v) reduces the standing crop of bracken (*P. aquilinum*) fronds and the total biomass of bracken rhizomes.[1] It has been found in spring water and honey.[3,4] Formulations containing asulam have been used as herbicides in agriculture.

References

1. Lowday, J.E. The effects of cutting and asulam on numbers of frond buds and biomass of fronds and rhizomes of bracken *Pteridium aquilinum*. *Ann. Appl. Biol.* **110(1),** 175-184 (1987).
2. Veerasekaran, P.V., Kirkwood, R.C., and Parnell, E.W. Studies of the mechanism of action of asulam in plants. Part 11: Effect of asulam on the biosynthesis of folic acid. *Pestic. Sci.* **12,** 330-338 (1981).
3. Nantia, E.A., Moreno-González, D., Manfo, F.P.T., *et al.* Characterization of carbamate pesticides in natural water from cameroon. *Anal. Lett.* **50(9),** 1397-1409 (2017).
4. Kaufmann, A. and Kaenzig, A. Contamination of honey by the herbicide asulam and its antibacterial active metabolite sulfanilamide. *Food Addit. Contam.* **21(6),** 564-571 (2004).

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